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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/531,918	03/21/2000	David Scott Taubman	10990265-1	7309

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EXAMINER

CHEN, WENPENG

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 05/20/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/531,918

Applicant(s)

TAUBMAN ET AL.

Examiner

Wenpeng Chen

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Examiner's responses to Applicant's remark

1. Applicants' arguments filed on 3/6/2003 have been fully considered.

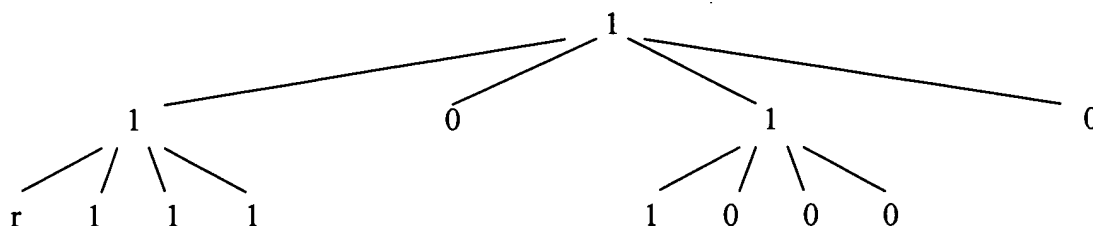
-- The amendments overcome (1) claim objections and (2) claim rejections under 35 U.S.C. 112, second paragraph, set forth in paper #3.

2. Applicants' arguments with regard to the art rejection have been fully considered but they are not persuasive. The Examiner has thoroughly reviewed Applicants' arguments but firmly believes that the cited reference to reasonably and properly meet the claimed limitation.

3. Applicants' argument -- Lei mixes refinement information with significant information. Therefore, Lei fails to disclose "concatenating the encoding of the significance information and the refinement information generated for each bit-plane."

Examiner's response -- The word "concatenate" is defined as "to connect." The applicants are correct that Lei mixes refinement information with significant information in a bit stream of a bit plane. Lei then connects bit streams of the bit planes. The action of "mixing" is a process of "concatenate." Without specifically defining how to concatenate the significance information and the refinement information in claims, the Examiner's cited passages teach this feature.

4. Applicants' argument -- Lei fails to teach a bottom-up-depth-first manner to generate significant information for each bit-plane.



We can see that Lei's ordering is the same as that of the present application. Because, the Applicants define its method is of a bottom-up-depth-first manner, Lei's method is also of bottom-up-depth-first manner.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Lei et al. (US patent 6,356,665 cited previously.)

Lei teaches a method and apparatus of coding the bit-planes of an array of numbers comprising the steps of and the means for:

- converting the values in the array of numbers to binary; (column 3, line 65 to column 4, line 17; Values represented by a series of binary bits.)
- determining the number of bit-planes based on a number having the maximum absolute value of the array of numbers; (column 5, lines 22-59)
- generating a tree structured description of significance information for each bit-plane of the array based on a modified quad-tree coding technique; (column 4, lines 36-48; column 5, line 60 to column 6, line 14)
- generating an SNR scalable encoding of the significance information for each bit plane by describing new branches and leaves of the tree structured description corresponding to each

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bit- plane in a bottom-up-depth-first manner; (column 2, lines 46-53; column 4, lines 14-49; column 6, line 65 to column 7, line 67; Figs. 5, 6A, 6B; When a block at a bit-plane level is decomposed into 4 subblocks at box 78 of Fig. 5, thus describing new branches and leaves of the tree. As described with Figs. 6A and 6B, this action of description is same as those processes discussed in Figs. 5-8 of the present application. Therefore, this action of description is of a bottom-up-depth-first manner. The passage in column 2, lines 46-53 indicates that coding process is an SNR scalable encoding. Also see the explanation above.)

-- generating an encoding of refinement information for each bit-plane; (column 6, lines 4-52; Figs. 5, 6A, 6B; Refinement bits are generated for each bit-plane.)

-- generating a SNR scalable description of the array by concatenating the encoding of the significance information and the refinement information generated for each bit-plane; (column 4, lines 56-65; Figs. 6A and 6B; column 6, line 65 to column 7, line 67; The encoded bit streams are connected one bit-plane after one bit-plane in the order from the MSB to LSB. Also see the explanation above.)

-- truncating the binary values to a predetermined level of accuracy after the step of converting. (column 4, lines 1-8)

The apparatus is shown in Fig. 1.

Lei teaches a computer coding system (Fig. 1) for an input image, the system having a sampling filter which decomposes the input image into four frequency subbands and outputs a Wavelet transform (column 3, lines 45-63; Fig. 8 clearly shows decomposing the input image into four frequency subbands), the system comprising:

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-- an encoder which generates a SNR scalable description of the Wavelet transform by concatenating an encoding of significance information and an encoding of refinement information generated for each bit-plane, wherein the encoding of the significance information for each bit-plane is generated by describing new branches and leaves of the tree corresponding to each bit-plane in a bottom-up-depth-first manner; (Fig. 1; column 2, lines 46-53; column 4, lines 14-49; column 6, line 65 to column 7, line 67; Figs. 5, 6A, 6B; column 4, lines 56-65; Figs. 6A and 6B; column 8, lines 53-67; When a block at a bit-plane level is decomposed into 4 subblocks at box 78 of Fig. 5, thus describing new branches and leaves of the tree. As described with Figs. 6A and 6B, this action of description is same as those processes discussed in Figs. 5-8 of the present application. Therefore, this action of description is of a bottom-up-depth-first manner. The passage in column 2, lines 46-53 indicates that coding process is an SNR scalable encoding. The encoded bit streams are connected one bit-plane after one bit-plane in the order from the MSB to LSB.)

-- a decoder which utilizes the SNR scalable description of the Wavelet transform to produce an output image. (Fig. 1)

Conclusion

7. THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). The Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire THREE MONTHS from the date of this action. In the event a first response is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wenpeng Chen whose telephone number is 703 306-2796. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on 703 308-7452. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications. TC 2600's customer service number is 703-306-0377.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-4700.

Wenpeng Chen
Examiner
Art Unit 2624

May 19, 2003

